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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,713	12/07/2001	Ryoichi Mukai	0671.66045	5134

24978 7590 07/28/2003

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EXAMINER

RICKMAN, HOLLY C

ART UNIT	PAPER NUMBER
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1773

DATE MAILED: 07/28/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/008,713

Applicant(s)

MUKAI, RYOICHI

Examiner

Holly Rickman

Art Unit

1773

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,10 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2,10 and 12-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/16/03 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. The rejection of claims 1, 3, and 8-9 under 35 U.S.C. 102(b) as being anticipated by Mukai (US 5759617) is withdrawn in view of the cancellation of those claims.

4. Claim 2 is rejected under 35 U.S.C. 102(b) as being anticipated by the abstract of JP 5-101933.

Art Unit: 1773

The abstract of JP 5-101933 discloses a Cr/Cr-alloy layer formed on a substrate and a magnetic film containing Co and a minimum of 5 at% Cr.

5. Claims 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Coffey et al. (US 5989728).

Coffey et al. disclose a method of making a magnetic recording medium which includes the steps of depositing an underlayer material selected from a group including CrPt (col. 4, lines 33-41) on a substrate, depositing a magnetic layer thereon which is formed from a CoPt alloy and finally annealing (see abstract).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The rejection of claims 2 and 10 under 35 U.S.C. 103(a) as being unpatentable over Mukai (US 5759617) is withdrawn in view of Applicant's arguments.

8. The rejection of claims 7 and 11 under 35 U.S.C. 103(a) as being unpatentable over Mukai (US 5759617) in view of Gui et al. (US 6153284) is withdrawn in view of the cancellation of these claims.

Art Unit: 1773

9. Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Endo et al. (US 4774130).

Endo et al. disclose a magnetic recording medium having a substrate, an underlayer formed from a material selected from a group including Cr, and a magnetic layer formed from a material selected from the group including CoCr wherein Cr is present in a minimum amount of 5 at% (col. 2, line 50 to col. 3, line 11; col. 4, lines 67 to col. 5, line 4). While the reference doesn't explicitly disclose the combination of a Cr underlayer with a CoCr magnetic layer containing 5 at% Cr, it would have been obvious to one of ordinary skill in the art to select these particular materials from the disclosed groups of materials in view of the functional equivalence of each of the magnetic alloys and each of the underlayer materials disclosed.

10. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Coffey et al. (US 5989728) in view of Ataka et al. (US 5939202).

Coffey et al. disclose a method of making a magnetic recording medium which includes the steps of depositing an underlayer material selected from a group including CrPt (col. 4, lines 33-41) on a substrate, depositing a magnetic layer thereon which is formed from a CoPt alloy and finally annealing (see abstract). The reference is silent with regard to the step of sputtering at a bias voltage of 0 V.

Ataka et al. teach that it is known in the art that sputtering with no bias voltage versus sputtering with the application of a bias voltage affects the coercivity of the recording medium. The reference teaches that application of 0V bias voltage produces a recording medium having a sufficiently high coercivity. Thus, it would have been obvious to one of ordinary skill in the art

Art Unit: 1773

to sputter the layers of the structure taught by Coffey et al. without applying a bias voltage thereby producing a structure having a suitable coercivity.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Holly Rickman whose telephone number is (703) 305-2642. The examiner can normally be reached on Monday-Friday 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau can be reached on (703) 308-2367. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Holly Rickman
Primary Examiner
Art Unit 1773

hcr
July 22, 2003